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CLOSURE PLAN
FOR THE
TEMPORARY HAZARDOUS
WASTE STORAGE PAD

Waterloo Industries, Inc.

Waterloo, Iowa

October 19, 1990



R00364237

RCRA RECORDS CENTER

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CLOSURE PLAN
FOR THE
TEMPORARY HAZARDOUS WASTE STORAGE PAD

WATERLOO INDUSTRIES, INC
300 Ansborough Avenue
Waterloo, Iowa 50704
319/235-7131

October 19, 1990

1. INTRODUCTION:

This closure plan has been prepared and will be implemented pursuant to the requirements of the Consent Agreement and Consent Order between Waterloo Industries, Inc. and Region VII of the United States Environmental Protection Agency ("EPA"), dated June 29, 1990, Docket No. VII-88-H-0015.

Waterloo has decided to move its temporary hazardous waste storage area to a different location. The existing temporary hazardous waste storage pad (the "storage pad"), will be used to store non-hazardous materials.

A description of the storage pad is included, followed by a description of the necessary steps for closure and a closure time schedule. Proper certification of the closure will be made by the Plant Manager for Waterloo, and an independent registered professional engineer, as required by 40 C.F.R. section 265.115.

2. DESCRIPTION OF THE STORAGE PAD:

The storage pad at the Waterloo Plant is located on the southern side of the manufacturing building, toward the western end. A map of a portion of the Waterloo Industries manufacturing facility is included as Figure 1 of this closure plan. The storage pad is approximately thirty-five feet long and ten feet wide. The entire storage pad is surrounded by a twelve-foot high chain link fence. The pad is sloped and equipped with a berm on applicable sides. There is a double gate on the east side of the storage pad which is used for entrance into the storage containment area. This double gate is locked, except when necessary to add or remove drums of waste from the storage pad.

The pad was constructed, in 1980, using reinforced concrete materials and is presently free of cracks and gaps. There are two fire extinguishers attached to the external side of the fence enclosing the storage pad. One fire extinguisher is located near the entrance on the north side. The other fire extinguisher is located on the southwestern corner of the storage pad. Figure 2 of this closure plan provides a map describing the storage pad.

One RCRA-listed waste is temporarily stored on the storage pad. This waste consists of spent solvents from the cleaning of paint lines and equipment. This material is classified as a listed ignitable and toxic hazardous waste under RCRA regulations. The EPA RCRA waste identification number for this waste is F005. The major constituents of this waste are toluene, xylene, and methyl ethyl ketone (MEK).

FIGURE 1 - CLOSURE PLAN

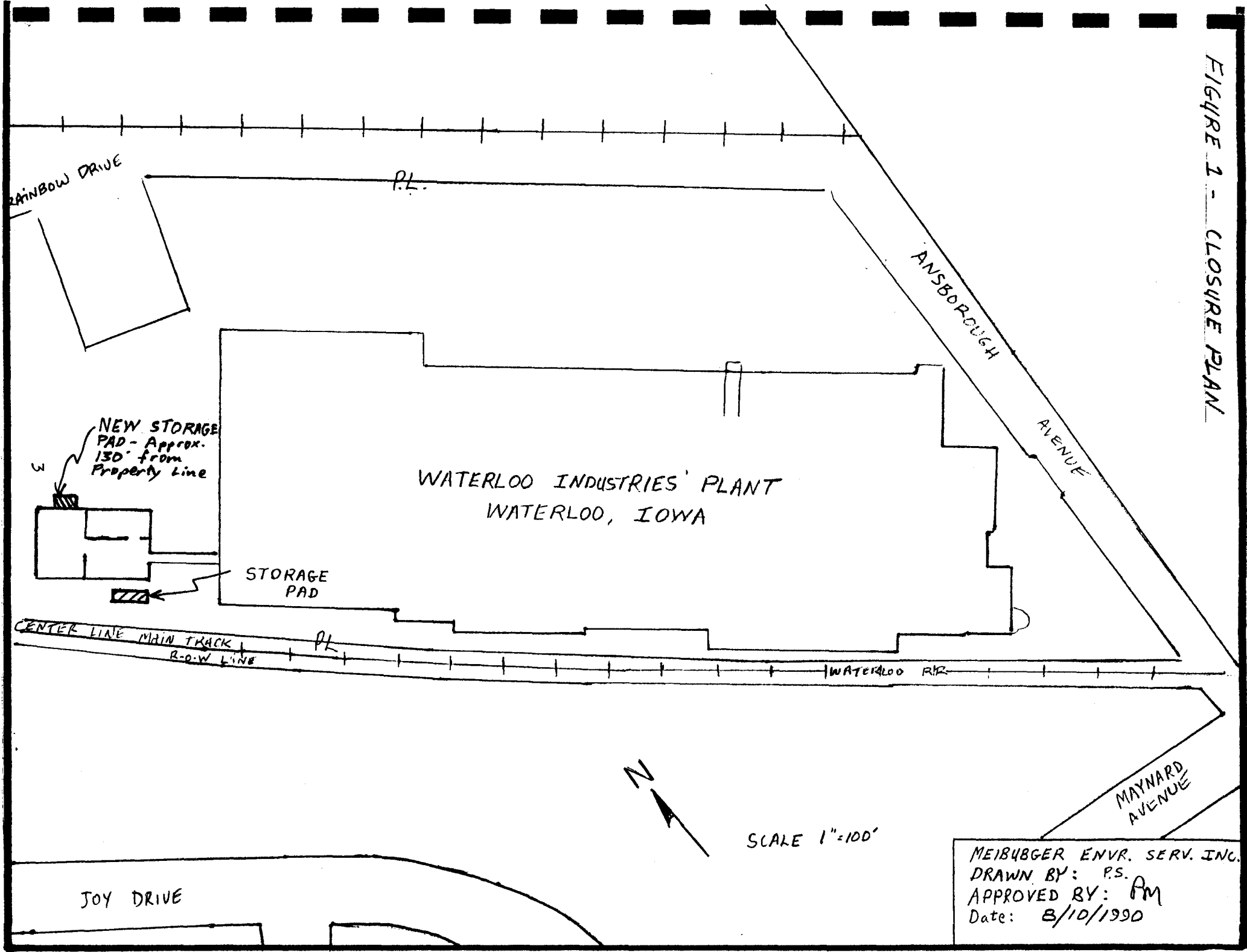
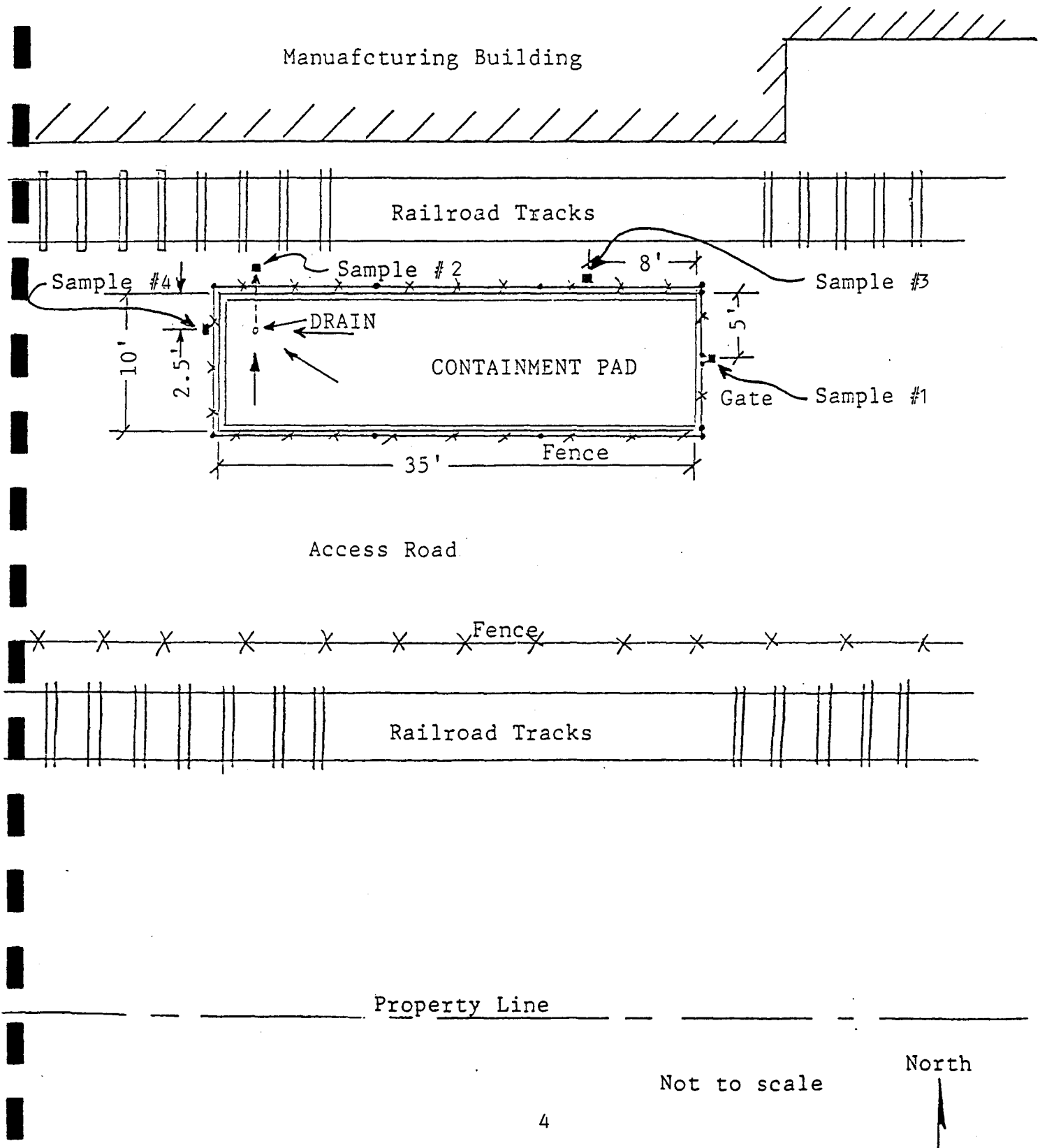


FIGURE 2

WATERLOO INDUSTRIES, INC.
TEMPORARY STORAGE CONTAINMENT PAD



3. CLOSURE PLAN AND PROCEDURES:

This closure plan includes the following items:

- A. Summary of the Closure Plan;
- B. Closure Performance Standard;
- C. Maximum Inventory of Waste;
- D. Storage Pad Cleaning and Inspection;
- E. Sampling and Analysis of Surrounding Soils;
- F. Sampling and Analysis of Storage Pad;
- G. Closure Schedule; and
- H. Closure Certification.

A. Summary of the Closure Plan:

This closure will include movement of all RCRA regulated wastes to a new storage location on the opposite side of the plant either before or as part of closure activities. The storage pad will be cleaned and sampled to determine the effectiveness of closure.

The soils surrounding the storage pad will be sampled and analyzed for selected organic compounds, as specified in the Consent Agreement and Consent Order. Materials from the surface of the storage pad, after cleaning, will be chipped to obtain a sample, which will also be analyzed for selected organic parameters. The selected organic compounds are representative of the RCRA waste stored on the storage pad. If there are any cracks or gaps that, if water was poured into it, the water would flow

into the crack, then the soils underlying the pad will be sampled and analyzed for the selected organic parameters. The selected organic parameters include toluene, xylene and methyl ethyl ketone.

The materials that are being stored on the storage pad will be moved to a new storage area on the north side of the plant prior to implementing closure activities. After the storage pad is free of waste containers, the pad will be cleaned and inspected to ascertain there are no cracks or gaps. After closure is completed, a report of the results of the closure will be prepared and submitted to EPA. Certification of closure will accompany the closure report.

B. Closure Performance Standard:

The cleaned storage pad and the soils surrounding the storage pad will be sampled and analyzed for toluene, xylene and methyl ethyl ketone, organic compounds which are known to be present in the RCRA waste which has been stored on the storage pad and which EPA has agreed are the three constituents for which analysis is required. Action levels were established by EPA for each constituent in the soils during the November 16, 1988 meeting. The three parameters and their corresponding action levels are provided in Table 1 on the next page.

TABLE 1	
TEST PARAMETERS AND ACTION LEVELS	
Test Parameter	Action Level
F005 Toluene	50 mg/kg (ppm)
F003 Xylene	340 mg/kg (ppm)
F005 Methyl ethyl ketone (MEK)	50 mg/kg (ppm)

C. Maximum Inventory and Closure Cost Estimate Assumptions:

It is estimated that the maximum inventory of RCRA waste that could be stored within the storage pad while still keeping proper aisle space as required by 40 CFR Section 265.35 is forty-eight (48) 55-gallon drums. However, no more than twenty-five (25) 55-gallon drums of ignitable hazardous waste are ever stored in the storage pad as per the Consent Agreement and Consent Order.

Because the storage of hazardous waste for less than 90 days has been the standard procedure in the past and will continue after and during closure of the storage pad, the closure cost estimate developed under 40 CFR Section 265.142 does not include the cost of disposal of the maximum inventory of waste materials that can be stored on the storage pad.

There has been no evidence of releases of hazardous waste from containers in the storage pad in the past. Waterloo Industries does not expect that soils surrounding the storage pad will exceed the action levels of Table 1. If, however, sampling and analysis determines otherwise, then soil removal will be conducted to achieve an in-place concentration of the selected organic

parameters that are below the action levels described in Table 1 of this closure plan, and as per Exhibit A of the Consent Agreement and Consent Order. Because contaminated soils are not expected, the cost for excavation and disposal of contaminated soils is also not included in the closure cost estimate developed under 40 CFR Section 265.142.

Inclusion of the cost for disposal of the inventory of hazardous waste present on the site, and the cost for excavation and removal of contaminated soils in the closure cost estimate were agreed by EPA to be unnecessary during the aforementioned November 16, 1988 meeting.

D. Storage Pad Cleaning and Inspection:

All of the containers of hazardous waste that are being stored on the storage pad at the time of closure will be relocated to the new storage area, on the opposite side of the plant as designated on Figure 2. The new storage area will be designed with a containment system that is able to contain the volume of the largest container or 10 percent of the volume of the total amount of hazardous waste containing free liquids, whichever is greater. After all the containers are removed, the storage pad will be cleaned and inspected according to the sequence in Table 2 on the next page.

If there are any visible cracks in the pad after cleaning which are of sufficient width to allow liquid to readily flow into the crack, then the location will be identified, and samples will

TABLE 2

STORAGE PAD CLEANING AND INSPECTION PROCEDURES

1. Removal of any accumulated waters on the pad;
2. Removal of surface dirt and particles by sweeping;
3. High-pressure cleaning to remove dust and small particles, and to expose any cracks that may be present;
4. Removal and collection of any accumulated waters from the pressure cleaning, followed by disposal in the sewer;
5. Inspection for any cracks or gaps that would allow surface materials to move to beneath the storage pad.

be taken of the soil directly beneath such a crack and midway at the length of the crack. Sampling will be performed in accordance with the procedures described in Section 3.E of this closure plan.

Contingency soil removal is not believed to be necessary; however, it is presented here to assure the agency that full and proper clean-up of contamination above the action levels in Table 1 will occur, if necessary. If the original samples exceed the action levels provided in Table 1, then additional samples will be taken from a depth of 6 to 12 inches. Any soils contaminated in excess of the action levels, for the three constituents of concern, will be excavated and removed. After excavation and removal, the affected area will be sampled and analyzed as before. Soils around the storage pad that have concentrations of the three constituents

of concern, in excess of the action levels provided in Table 1 will be excavated, and properly disposed of in accordance with applicable regulations.

If excavation is required, it will occur using either a back hoe or bob cat type equipment. The excavated materials will be shipped off-site in a plastic-lined and covered truck to a RCRA facility that is permitted and allowed to receive contaminated soils. The excavated soils will be treated prior to land disposal, if necessary, to comply with 40 C.F.R. Part 268. Incineration or another acceptable treatment technology will be used if the materials cannot be landfilled directly or after satisfactory treatment.

As noted earlier in this closure plan, the cost of implementing soil excavation and disposal is not included in the closure cost estimate, because Waterloo Industries does not expect that the soils surrounding the storage pad will be contaminated in excess of the limits in Table 1.

E. Sampling and Analysis of Surrounding Soils:

Sampling and analysis of all samples will be for the organic compounds listed in Table 1. Four samples will be taken from locations that are designated on Figure 2. The sampling locations are further described in Table 3. The first column in Table 3 is the sampling sequence, followed by the sample number. The sample numbers correspond to Exhibit A in the Consent Agreement and Consent Order.

The sample sequence is selected based on a remote possibility that contamination is present, and based on judgment as to which samples would be lower or higher in contamination. The assumed lowest concentration sample location is sampled first, and the assumed highest concentration sample location is sampled last. This minimizes the affect of any possible cross-contamination.

All samples taken for the initial soil analysis will be from a depth range of 0-6 inches. If these samples contain contamination at levels greater than the action levels in Table 1, then sampling and analysis of the depth range from 6-12 inches will be conducted. If samples from the 0-6 inches depth do not exhibit contamination at levels greater than the action levels in Table 1, no sampling and analysis will be performed at the depth of 6" to 12".

Sampling will be conducted using either a Trier Sampler, split spoon sampler, or a steel shovel. The steel shovel will only be used if an adequate sample cannot be obtained by using the Trier or split spoon sampler. The rocky materials in the area of sampling may prevent use of the Trier Sampler or split spoon sampler. If representatives from the EPA are present, and split samples are requested, split samples will be provided to EPA. Between each sample, the sampling equipment will be cleaned using the cleaning sequence outlined in Table 4. An equipment blank will be obtained by rinsing the cleaned equipment with deionized water after the second cleaning of the equipment. A duplicate sample of either 1,2,3 or 4 will also be obtained and analyzed.

TABLE 3

DESCRIPTION OF SAMPLING LOCATIONS

Sample Sequence	Sample Number	Description of Location
1	3	One sample will be taken from the side of the storage pad, approximately eight (8) feet from the east corner of the pad, and twelve inches north of the storage pad.
2	1	One sample will be taken from the center of the east side of the storage pad where the gate is located and twelve inches from the east side of the storage pad.
3	4	One sample will be taken from the west side of the storage pad, 2.5 feet from the northwest corner, and twelve inches west of the edge of the storage pad.
4	2	One sample will be taken from the north side of the storage pad, at the location of the drainage discharge pipe. This drainage pipe is located about three feet from the northwest corner of the pad, and discharges approximately one foot north of the edge of the pad. The sample will be taken from the area of drainage from the storage pad.
5	5	One sample of the surface pad materials from the west side of the pad, where hazardous waste was most commonly stored.
6	6	If significant cracks are observed, then samples of the underlying soils from the center of each crack.

TABLE 4
SAMPLING EQUIPMENT CLEANING PROCEDURES

- | | |
|---|---------------------------------|
| 1 | Soap wash with scrub brush |
| 2 | Tap water rinse |
| 3 | Millipore Deionized Water Rinse |
| 4 | Nanograde Methanol Rinse |
| 5 | Nanograde Hexane Rinse |
| 6 | Air dry |

All soap waters will be changed after each cleaning. Soap waters, rinse waters and methanol rinse materials will be properly collected and disposed of in the sanitary sewer. Hexane rinse will be collected and properly disposed of with the laboratory solvents. After the second sample, a material blank will be obtained by conducting a second millipore deionized water rinse after the full cleaning procedure is completed, and collecting the rinse water, and analyzing the rinse waters for the same parameters as in Table 1. A blank deionized water sample will also be analyzed for the selected parameters. A field blank collected from a point remote from the storage pad will be used and will be analyzed in the same manner as the soil samples. One of the samples will also be analyzed twice as further quality control and quality assurance.

All soil samples will be collected in small glass bottles with a teflon cap seal. The equipment blank and a deionized water blank (both water samples) will be collected in a VOA bottle equipped with a teflon lined septum top that can be punctured by a syringe for sample removal. All samples and blanks will be stored at 4 degrees centigrade until the time of analysis. Samples will be analyzed within 21 days of sampling.

Analysis will be conducted by a qualified laboratory. The analysis procedures will be as described in 40 CFR 261 Appendix III. Method numbers will be from SW 846. Method numbers 8020 or 8024 will be used for toluene, method numbers 8020 or 8240 will be used for xylene, and method numbers 8015 or 8240 will be used for methyl ethyl ketone (MEK).

F. Sampling and Analysis of Storage Pad:

After sampling of the soil surrounding the storage pad and the cleaning of the storage pad, a sample of the storage pad itself will be obtained. This sample will be obtained using a cleaned chisel to chip surface portions from the western side of the storage pad. The concrete chips will be collected in a small teflon lined glass container, then analyzed for the selected organic parameters similar to the soil samples. The sampling equipment for the storage pad will be cleaned as described in Table 4 of this closure plan.

G. Closure Schedule:

In accordance with the Consent Agreement and Consent Order, the closure activities will be completed within 180 days after written approval of this closure plan by the EPA. Pursuant to the Consent Agreement and Consent Order, the EPA will be notified, in writing, 30 days before closure activities, including sample collection, are expected to begin. Implementation of the Closure Plan is expected to occur over a one-day period as described below.

DAY ONE

- Relocation of containers on the storage pad
- Sampling of the four points around the storage pad
- Cleaning of the storage pad
- Inspection of the storage pad
- Sampling of the storage pad

Allowing 30 days for results from the analysis of the soils, the Report of Closure Activities and certification of closure will be submitted within 45 days from the day closure activities are finished. The specifics of the Report of Closure Activities are included in the next section of this Closure Plan.

H. Closure Certification:

Within 45 days from the end of closure activities, the certification of closure will be submitted to the EPA. This 45-day schedule is subject to obtaining a 30-day return on the results from the soil samples by the laboratory. If laboratory turn around time is greater than 30 days, the number of days in excess of 30 days will be added to the 45 day period within which the Report of closure and certification of closure will be submitted. The certification of closure will be included with the Report of Closure Activities. The Report of Closure Activities will include the following items:

- A detailed description of the closure activities;
- Copies of all field notes taken during the closure;
- Copies of the Inspector's Daily Record of Work Progress;
- A detailed description and photographic record of the inspection of the storage pad;
- Copies of all of the laboratory analysis reports and the chain of custody forms;
- Certification by a registered professional engineer that the closure was accomplished in accordance with this plan and any modification thereto; and
- Certification by the owner (Plant Manager) that the closure was accomplished in accordance with this plan and any modification thereto.

The Report of Closure Activities will be submitted to the EPA Region VII Regional Administrator by registered mail as provided in 40 C.F.R. Section 265.115. All documentation supporting the certification by the registered professional engineer will be included in the Report of Closure Activities.

APPENDIX 1

APPLICABLE REGULATIONS FOR CLOSURE

AT THE

WATERLOO INDUSTRIES, INC.
WATERLOO, IOWA

TEMPORARY STORAGE CONTAINMENT PAD

40 C.F.R. 265.111	The Closure Performance Standard described in Section 2.B and Table 1 of this closure plan
40 C.F.R. 265.112(a)	Written Plan of Closure
40 C.F.R. 265.112(b) (4)	Removal or Decontamination Steps to confirm that soils near the hazardous waste storage pads are not contaminated
40 C.F.R. 265.112(b) (5)	Description of the Hazardous Waste Storage Pad cleaning and inspection
40 C.F.R. 265.112(b) (6)	Schedule for Closure of the Hazardous Waste Storage Pad
40 C.F.R. 265.115	Certification of Closure